

IN THE DRAWINGS

FIG. 1: FIG. 1 has been amended to read "DYNAMIC SESSION MANAGEMENT PROGRAM," replacing "DYNAMIC SESSTION MANAGEMENT PROGRAM." A replacement figure is attached.

FIG. 3: FIG. 3 has been amended to delete three small unlabeled blocks. FIG. 3 has also been amended to include the reference numeral 308, indicating a box around the partitions P1 and P2. A replacement figure is attached.

FIG. 5: Figure 5 has been amended to include the reference numeral 502, indicating the block reading "PARTITION THE APPLICATION SPACE." A replacement figure is attached.

REMARKS

In view of the following discussion, the Applicants submit that none of the claims now pending in the application is made obvious under the provisions of 35 U.S.C. §103. Thus, the Applicants believe that all of these claims are now in allowable form.

I. OBJECTION TO DRAWINGS

The Drawings stand objected to for informalities. In response, the Applicants have amended the Drawings and/or Specification, where appropriate, in order to more clearly illustrate aspects of the invention. In particular:

FIG. 1 has been amended, in accordance with the Examiner's suggestion, to read "DYNAMIC SESSION MANAGEMENT PROGRAM," replacing "DYNAMIC SESSTION MANAGEMENT PROGRAM." This change is supported at least by Paragraph [0021] of the Specification;

FIG. 3 has been amended to delete three small unlabeled blocks;

FIG. 3 has been amended to include the reference numeral 308, indicating a box around the partitions P1 and P2 that are of communication interest to the client C1. Paragraph [0027] of the Specification has been similarly amended to refer to reference numeral 308;

Paragraph [0025] of the Specification has been amended to clarify that the reference signs c2-c8, s11, s12, s13, c11, c12, c13, P3, P4, P6-P16, and o2-o10 are only used for the purposes of explanation in the Specification. Figure 5 has been amended to include the reference numeral 502, indicating the block reading "PARTITION THE APPLICATION SPACE." This change is supported at least by Paragraph [0032] of the Specification;

Paragraph [0046] has been amended to specify that the "control node s1" is a server node. Paragraph [0046] has been further amended to include the reference numerals illustrated in FIG. 8.

In light of these amendments, the Applicants respectfully request that the objection to the Drawings be withdrawn.

II. OBJECTION TO SPECIFICATION

The drawings stand objected to for informalities. In response, the Applicants have amended the Specification in order to more clearly describe aspects of the invention. In particular:

Paragraph [0025] of the Specification has been amended to use consistent cases when indicating the reference signs of the same elements. Paragraph [0025] has been further amended to clarify that the reference signs used therein are only used for the purposes of explanation in the Specification, although some of the reference signs may also be used in the Figures;

Paragraph [0030] has been amended in order to clarify the first sentence; and

Paragraph [0061] has been amended, in accordance with the Examiner's suggestion, to replace "Receiver/Sender Node Join" with "Join/Leave Node Join."

In light of these amendments, the Applicants respectfully request that the objection to the Specification be withdrawn.

III. REJECTION OF CLAIM 21 UNDER 35 U.S.C. § 103

Claim 21 stands rejected as being unpatentable over the Filepp et al. patent (United States Patent No. 5,758,072, issued May 26, 1998, hereinafter "Filepp") in view of the Laiho et al. patent (United States Patent No. 6,097,942, issued August 1, 2000, hereinafter "Laiho") and further in view of the Curtis et al. patent (United States Patent No. 5,774,689, issued June 30, 1998, hereinafter "Curtis"). The Applicants respectfully traverse the rejection.

In particular, the Applicants respectfully submit that Filepp, Laiho, and Curtis, singly or in any permissible combination, fail to teach, show or suggest the novel invention of mapping network resources based on network characteristics to produce a network map, partitioning an application space based on communication interests of client, or indexing the partitions and network map, as positively claimed in the Applicants' independent claim 21.

The Examiner primarily submits that these features are taught by Filepp; however, the Applicants respectfully submit that the Examiner is misinterpreting the teachings of Filepp. For instance, Filepp does not teach mapping network resources or using network characteristics to generate the mapping. By contrast, Filepp teaches mapping network resources to destination ids for the purposes of message routing (See, e.g., Filepp, column 23, lines 44-46: "Accordingly, switching applications exist which map destination ids to resources and route messages appropriately").

Filepp also does not teach partitioning an application space or basing this partitioning on client communication interests. By contrast, Filepp teaches partitioning individual applications into minimal units, where the minimal units are based on quantities of information available from higher levels of the network (See, e.g., Filepp, column 5, lines 16-19: "... each application partition typically represents one screen or partial screen of information ...").

Furthermore, Filepp does not teach indexing the network map and application space partitions. By contrast, Filepp teaches "collecting data regarding usage of the network and applications." Filepp does not teach, however, that this data collection involves indexing application space partitions and network maps.

Laiho and Curtis likewise fail to teach or suggest these features. Thus, Filepp, Laiho, and Curtis fail, singly or in any permissible combination, to teach all of the claimed limitations of the Applicants' claim 21. Specifically, Applicants' claim 21 recites:

21. A method for dynamic grouping of clients to support scalable group communications in interactive applications, comprising:

identifying an application having an application space;
identifying a plurality of clients of said application such that each of said plurality of clients has a communication interest with said application;
identifying a communication network that handles communications between said plurality of clients and said application and that includes network resources with network characteristics;
mapping said network resources based on said network characteristics to produce network map information;
partitioning said application space into a plurality of communication interest partitions, each partition of which represents a communication interest of at least one of said plurality of clients;
indexing the partitions and said network map information to form a multi-type attribute index structure into one or more client groupings;
grouping said plurality of clients based on their communication interest and on said multi-type attribute index structure; and
forming a hierarchical structure that includes a parent node and at least one control node for communicating data to said plurality of clients such that said hierarchical structure is based on said attribute index structure and on the client groupings, wherein said parent node establishes a communication overlay that directs communications between said plurality of clients and said application, and said parent node produces a membership list comprising one or more of said plurality of clients having an interest in at least one of the plurality of communication interest partitions, wherein said membership list maps into one or more communication groups to enable distributed communication between said plurality of clients and said application. (Emphasis added)

As discussed above, Filepp in view of Laiho and further in view of Curtis simply does not teach, show or suggest all of the claimed limitations of the Applicants' claim 21. As such, the Applicants submit that claim 21 is not made obvious by the teachings of Filepp in view of Laiho and further in view of Curtis. Therefore, the Applicants respectfully submit that claim 21 fully satisfies the requirements of 35 U.S.C. §103 and is patentable thereunder.

IV. VOLUNTARY AMENDMENTS

The Applicants have voluntarily amended claim 21 in order to correct minor typographical errors.

V. CONCLUSION

Thus, the Applicants submit that all of the presented claims fully satisfy the requirements of 35 U.S.C. §103. Consequently, the Applicants believe that all of the presented claims are presently in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues requiring the issuance of a final action in any of the claims now pending in the application, it is requested that the Examiner telephone Mr. Kin-Wah Tong, Esq. at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

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Date

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